

**STATEMENT OF
ERIK D. OLSON
SENIOR ATTORNEY
NATURAL RESOURCES DEFENSE COUNCIL**

**SUBMITTED TO THE
COMMITTEE ON ENVIRONMENT & PUBLIC WORKS
OF THE
UNITED STATES SENATE**

**REGARDING
LEAD CONTAMINATION OF THE
DISTRICT OF COLUMBIA WATER SUPPLY**

APRIL 7, 2004

Thank you for the opportunity to submit this testimony. I am Erik D. Olson, a Senior Attorney with the Natural Resources Defense Council (NRDC), a national non-profit public interest organization dedicated to protecting public health and the environment, with over 500,000 members. I am Chair of the Campaign for Safe and Affordable Drinking Water, an alliance of over 300 medical, public health, nursing, consumer, environmental, and other groups working to improve drinking water protection. I also serve on the steering committee of a new organization called Lead Emergency Action for the District (LEAD), a coalition of local and national civic groups, environmental, consumer, medical, and other organizations and citizens urging a stronger public response to the D.C. lead crisis. I testify today only on behalf of NRDC.

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The drinking water lead crisis in Washington D.C. poses serious public health risks to thousands of residents of the national capital area, and casts a dark shadow of doubt over the ability, resources, or will of federal and local officials to fulfill their duty to protect our health. Preliminary data released by the Centers for Disease Control and Prevention recently found that there are reasons to be concerned about lead in DC tap water. While severe acute lead poisoning due to drinking water was not found, blood lead levels in DC children who drink water in homes served with lead lines did not decrease, whereas they did decrease in children served by non-lead lines. This suggested to health experts that lead in tap water is likely contributing to higher blood lead levels in some children in the District. Because of deficiencies in the D.C. blood lead monitoring program design, and because blood lead levels begin to drop fairly shortly after exposure is stopped (with time much of the lead deposits in bone and tissues), it is quite possible that more serious problems were not detected. Mary Jean Brown, the lead poison prevention chief at the CDC and a co-author of the report said in releasing the report

that "there is no safe level of lead...Even a small contribution, especially in small children, is not something that we want to happen...We don't want to increase the blood lead levels of those individuals by even 1 microgram if it can be prevented." See Avram Goldstein, "Blood Lead Levels Affected by Disinfectant," Washington Post, March 31, 2004, available online at <http://www.washingtonpost.com/wp-dyn/articles/A37404-2004Mar30.html> and CDC study at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm53d330a1.htm>.

It is important to note that new data published in major medical journals the past few years show that even at levels below 10 ug/dl in blood, lead has been linked to reduced cognitive function in children, and surprisingly, the most significant effects are seen at levels below 10 ug/dl. See CDC Advisory Committee on Childhood Lead Poisoning Prevention, Evidence of Health Effects of Blood Lead Level <10 ug/dl, available online at <http://www.cdc.gov/nceh/lead/ACCLPP/meetingMinutes/lessThan10MtgMAR04.pdf>.

The U.S. Environmental Protection Agency (EPA) has the primary responsibility for protecting drinking water only in Washington D.C., Wyoming, and a few U.S. territories. EPA has failed to fulfill its obligation to aggressively oversee the safety of D.C.'s water supply, to ensure that the public is fully apprised of the health threats posed by our drinking water, and to enforce the law.

This raises important questions about the adequacy of EPA's drinking water program not only for the Nation's Capital, but also for the whole nation. The U.S. Army Corps of Engineers' Washington Aqueduct Division (the Corps) has failed to treat the water it delivers to D.C. and neighboring Northern Virginia communities sufficiently to assure that the water is not corrosive, in order to reduce lead contamination. The D.C. Water and Sewer Authority (WASA) has failed to act promptly or adequately on the lead contamination crisis, and has repeatedly confused and mislead the public about the lead problem. To date, the local and federal response has been far too slow and manifestly inadequate. The nation's capital's water supply should be the best in the world, an international model. Instead, it is among the worst big city supplies in the nation.

It should not be assumed that Washington is the only city in the U.S. affected by lead or other important tap water problems. We are now learning of lead problems in Northern Virginia, and there are several other cities have struggled with lead contamination in recent years, including:

- **Seattle, Washington** (19 ppb 90th percentile lead according to Annual Consumer Confidence Report (CCR) issued in 2003, citing 1997 data).
- **Portland, Oregon** (17 ppb 90th percentile according to CCR issued in 2003)
- **St. Paul, Minnesota** (45 ppb 90th percentile in 1996, reportedly brought down through treatment to 25 ppb in 1999, 20 ppb in 2000, and 11 ppb in 2003).
- **Bangor, Maine** (6-8 ppb 90th percentile from 1993-1999, increased to "15 ppb" in 2001 after switch to chloramines and subsequent nitrification problem; reportedly reduced since then after additional treatment—compliance issue boiled down to 1 ppb in one home out of 38 tested).
- **Madison, Wisconsin** (22.2 ppb 90th percentile lead level, city is now doing lead service line replacement, according to February 2004 report available online at <http://www.ci.madison.wi.us/water/Report%20PhaseII%20S.pdf>).
- **Greater Boston, Massachusetts** communities (most recent Mass. Water Resource Authority's 2003 CCR reports system-wide (consolidated) 90th percentile lead level has dropped from 65 ppb in 1992 to 11 ppb in 2002, but MWRA's 2001 CCR reported, on a community-by-community basis, that 13 Boston area communities substantially exceeded

the 90th percentile level. It is unclear why MWRA stopped reporting these community-by-community data in its annual CCRs thereafter.)

- **Newark, New Jersey** (2001 90th percentile in Wanaque system was 24 ppb and 13 ppb in Pequannock system; 2002 level reportedly changed to 12 and 14, respectively, with new corrosion treatment).
- **New York City** (2002 and 2001 90th percentile levels reported in CCR at 15 ppb, with levels up to 3,555 ppb in 2001; compliance issue boils down to 1 ppb in one home out of 107 tested in all of NYC).
- **Oneida, New York** (2002 CCR reported 19 ppb 90th percentile level, reportedly doing lead service line replacement).

As several of these examples highlight, there are opportunities to “game” the system by slightly altering the monitoring program. Though there is evidence that this may have happened in Washington D.C., we are not aware of any evidence of this elsewhere, though the temptation could be large, and the lack of serious EPA oversight makes detection of such problems unlikely. If the compliance of a system serving millions of people boils down to less than 1 ppb measured at one or a few homes out of about 100 tested, this raises significant issues.

Many other cities have had similar lead problems to those noted above. However, incredibly EPA maintains no accurate up-to-date national information on this issue. Some of these cities will assert that they are now in compliance with EPA’s lead action level despite recent documented problems, but EPA has done little to aggressively ensure that this is correct.

School systems in many cities across the country including in Seattle, Boston, Baltimore, Philadelphia, Montgomery County, Maryland, and many others have found serious lead contamination problems, but often have been slow to inform parents and resolve the problem. Many other states and school systems have entirely failed to comply with the Lead Contamination Control Act of 1988’s mandate to test school water for lead and replace coolers that serve lead-contaminated water. EPA and many states have done a poor job of assuring that the EPA lead rule, and the school testing and cooler programs are fully implemented.

The EPA Inspector General has recently issued a stinging report finding that EPA’s national drinking water database mandated by Congress and EPA rules is woefully incomplete and out of date, and that EPA has repeatedly mislead the public about drinking water quality and compliance because violations are seriously underreported.¹ EPA has acknowledged that there are major problems with state reporting of all violations and specific lead levels to EPA—indeed, NRDC has learned that fully 20 states have not been reporting any required information on lead rule compliance, contrary to EPA rules. Yet EPA has failed to crack down on states that are not complying with federal reporting rules, making effective federal tracking, oversight, and enforcement impossible. Moreover, the Washington crisis and experience in other cities highlight that the EPA lead rule and public education requirements are manifestly inadequate and almost designed to be difficult to enforce.

Below, we summarize some key problems with the response to the lead crisis, and the actions that need to be taken to resolve the problem locally and to avoid possible repetition of the problem nationally:

¹ EPA Inspector General, “EPA Claims to Meet Drinking Water Quality Goals Despite Persistent Data Quality Shortcomings,” Report 2004-P-0008, available online at www.epa.gov/oig/reports/2004/20040305-2004-P-0008.pdf

EPA. The EPA bears a special responsibility for addressing the D.C. water crisis, since EPA has primary responsibility for drinking water protection only in Washington, D.C. and Wyoming. EPA must take emergency enforcement action against WASA and the Corps. EPA's recent notice of violation issued to WASA was extremely long in coming. EPA's deals with WASA and the Corps lack the clarity, detail, and enforceability that are needed to assure this problem is promptly resolved. Only years after the alleged violations, of which EPA was well aware, and only after a barrage of two months of adverse publicity, did EPA take this feeble action of issuing an NOV. An emergency enforcement order should be issued that would not only mandate immediate actions to deal in the short-term with the lead crisis, but should also require a comprehensive top-to-bottom third party review of both WASA and Corps operations.

EPA has failed to ensure prompt and accurate public education and reporting on lead problems, and there are substantial questions about whether EPA adequately oversaw WASA's lead monitoring and sample invalidations. EPA failed to promptly and adequately review, or to insist upon the updating the Corps' corrosion control program. It is unclear whether EPA insisted upon an adequate and accurate materials survey, and EPA reportedly allowed WASA to avoid lead service line replacement by taking advantage of a regulatory loophole.

EPA has been slow to force WASA to redo its manifestly invalid and misleading school testing, or to mandate testing of day care centers or private schools. The EPA lead rule itself, which is drafted in a way that makes it extremely difficult to enforce, needs to be substantially strengthened. In addition, as noted above, EPA's data reporting systems are woefully inadequate, to the point that EPA management cannot accurately and timely answer simple questions such as "which public water systems are above the lead action level and which are replacing lead service lines?" EPA also has done little to ensure that school testing for lead has been carried out nationally, perhaps in part due to a court ruling casting doubt on the program (*Acorn v. Edwards*, 81 F.3d 1387 (5th Cir. 1996)). EPA's inspection and enforcement program for drinking water has always been weak, but has gotten demonstrably worse during the Bush Administration, as is shown in graphs at the end of this testimony.

Army Corps of Engineers. The Corps has failed to ensure that its water is adequately treated to reduce its corrosivity and to thereby reduce lead levels in Washington and the Northern Virginia suburbs that it serves. The Corps has repeatedly responded to water quality problems by adopting the cheapest and often least effective band-aid solutions. Instead of using orthophosphate or other sophisticated corrosion inhibitors as recommended as best by its consultants, the Corps chose to simply adjust water pH with lime, a cheaper and apparently less effective alternative.

Instead of moving towards advanced treatment such as granular activated carbon filters and UV light or ozone disinfection, or membranes to reduce cancer-causing (and possibly miscarriage and birth defect-inducing) disinfection byproducts, and to more effectively remove the dangerous parasite *Cryptosporidium* and other contaminants, the Corps opted for the cheapest and least effective choice. It simply added ammonia to its chlorine to make chloramines. The switch to chloramines did slightly reduce chlorination byproduct levels, but also appears to have increased corrosivity of the water and therefore increased lead problems. It should be noted that contrary to the inaccurate assertions of some critics, the EPA rules setting new limits on disinfection byproducts were not the result of wild environmental extremists, but were negotiated by a diverse regulatory negotiating committee over a several-year period. The committee included major water utility trade associations, chlorine manufacturers, health departments, public health experts, states, local officials, and environmentalists (see 1998 agreement in principle at <http://www.epa.gov/safewater/mdbp/mdbpagre.html>).

WASA. WASA's response to the lead crisis has been slow, plagued by misleading statements to the public and even to senior D.C. officials, and often characterized by missteps and at best grudging compliance with EPA rules. Whether it is the alleged firing of a WASA employee for reporting lead problems to EPA, or the failure to notify customers with high lead levels for many months after samples were taken, or the failure to effectively notify the Mayor, City Council, and all city residents of the extensive and serious lead problem until the Washington Post broke the story, WASA has a lot to answer for. EPA has recently listed six alleged violations of federal regulations that may have contributed to the lack of public knowledge. See EPA Non Compliance Letter to WASA, dated March 31, 2004, available online at <http://www.epa.gov/dclead/johnson-letter2.htm>.

WASA's conflicting advice to customers (such as a February 9 letter to all customers telling them to flush their water for 15-30 seconds, followed by a public announcement a few days later to flush lead lines for 10 minutes, followed a few days later by a recommendation that pregnant women and children under six served by lead service lines should use a filter) has confused and justifiably outraged citizens. WASA's invalid and misleading testing of city schools, in which virtually all samples were taken after water was flushed for 10 minutes (with the likely effect of reducing or eliminating lead levels), necessitates a re-conducting of a valid school and day care testing program. At the mayor's and EPA's insistence, WASA has now said it will do additional school testing.

In addition, it appears that WASA's *partial* lead service line replacement program may be making matters worse, increasing lead levels in some homes' water. Since local and federal authorities have approved and encouraged the use of lead service lines in D.C. for over 100 years, we believe that WASA should fully remove all of the lead service lines at its expense (with federal assistance, see "Congress" below), instead of stopping at the property line. A comprehensive third-party public review of WASA's lead program and all water quality operations also is desperately needed.

Congress. We urge Congress to help D.C. and EPA to fund the response to the lead crisis, including lead service line replacement and upgrades to the D.C. and Corps water infrastructure. Congress also should respond to the national water infrastructure problem through national legislation and increased appropriations. In addition, Congress should vigorously oversee EPA's drinking water program, including its national implementation of the lead rule and its enforcement and data collection programs. Members of this Committee should urge their colleagues on the Appropriations Committee to increase funding for EPA drinking water programs, and particularly for drinking water enforcement. We also urge Congress to insist that EPA take emergency enforcement action against WASA and the Corps, as discussed below.

Specifically, among the actions that we believe Congress should take to address problems raised by the lead crisis are:

- **Water Infrastructure or Grants/Trust Fund Legislation**

- Congress should substantially increase the Safe Drinking Water State Revolving Fund authorization and appropriations (now funded at \$850M; authorization of \$1B expired in 2003)
- Congress should adopt broad water infrastructure bill and/or water infrastructure trust fund legislation.
- Congress should adopt targeted legislation for lead rule compliance/lead service line replacement and filters for D.C. residents at least, since the federal government approved and oversaw the installation of the lead lines.

- The Corps of Engineers should pay for D.C. lead service line replacement since Corps built the system, and operates the treatment plant that is providing corrosive water. Also, federal agents (federally-appointed Commissioners and engineers) approved and sometimes required lead service lines in D.C.
- Congress should adopt new legislation that provides grants to needy water systems, like Reid-Ensign bill (S. 503, 107th Congress).
- **Fix Lead Pipe and Fixtures provision in the SDWA**
 - Congress should redefine “Lead Free” in SDWA §1417(d) to mean really lead free (i.e. no lead added, and no more than 0.1 or 0.25% incidental lead--as required by L.A., Bangor, Maine, etc.)
 - Congress should fix the public notice provisions in SDWA §1417(a)(2), which clearly have been inadequate (as shown by the D.C. experience)
- **Fix the SDWA lead in schools and day care provisions (SDWA §§1461-1463)**
 - Congress should redefine lead free in the Lead Contamination Control Act (LCCA), which added SDWA §1461, to mean really lead free (0.1% or 0.25%, see above)
 - Congress should order an EPA review of §1462 implementation and effectiveness of lead fountain recall provision in all states
 - Congress should clarify §§1461-63 to eliminate any constitutionality doubts raised by Acorn v. Edwards, 81 F.3d 1387 (5th Cir. 1996).
 - Congress should require ongoing retesting of all schools and day care centers in light of Acorn and widespread non-compliance, and new info on lead leaching.
- **Fix the EPA Lead Rule & Associated Regulations**
 - Adopt a 10 or 15 ppb MCL at the tap. There was an MCL (50 ppb) until 1991.
 - As a clearly second-best alternative, the rule needs serious overhaul:
 - ✓ Require immediate review of corrosion control programs for systems that make treatment changes, and also require review periodically;
 - ✓ Change monitoring requirements so systems cannot go for years without testing, and to clarify and strengthen test methods, site selection, and number of tests (50 or 100 per city are not enough);
 - ✓ Strengthen/overhaul public education and public notice requirements in 40 CFR 141.85 which are obviously inadequate;
 - ✓ Require full lead service line replacement, or at a minimum require that water systems that approved, authorized, or required use of lead service lines to replace those lines if they are contributing to lead over action level;
 - ✓ Require in-home certified filters to be provided to high-risk people who have high lead levels, with water system-supplied maintenance in accordance with 40 CFR 141.100;
 - ✓ Eliminate the loophole that allows systems to count homes tested at below 15 ppb as if their lead service lines were replaced in implementing the 7%/year lead service line replacement provision;
 - ✓ Require an overhaul/upgrade of EPA’s compliance & data tracking.
- **Fix the Consumer Confidence Report & Right to Know Requirements**
 - WASA’s report said on the cover “Your Drinking Water is Safe” and buried the facts. No one knew of the problem. Similar problems have been documented for water systems across the country. EPA’s right to know and consumer confidence report rules need to be overhauled & strengthened.

- **Fix SDWA Standards Provisions**

- Congress should require that standards to protect pregnant women, children, vulnerable people.
- Congress should overhaul the new contaminant selection & six year standard review provisions. These provisions have been complete failures since 1996.

EPA's Responsibilities

EPA has known, at least since the mid-1990's, that lead contamination of tap water is a significant issue in Washington, and that the public was ill-informed about the problem. In 1995-1996, in response to a Freedom of Information Act request, NRDC learned that many homes across the city had lead levels well in excess of the EPA Action Level, and that those homeowners had not been informed of the contamination. The Washington Post ran a story about the issue in April 1996. Meanwhile, the Corps' filed its corrosion control plan with EPA, and EPA substantially delayed in its approval, well beyond the legal deadline. Finally, EPA apparently simply accepted the Corps' plan to use only pH adjustment, rather than requiring the Corps to further study or use orthophosphate or other more sophisticated corrosion inhibitors recommended by some consultants. When the Corps later switched to chloramines as a disinfectant, EPA made the serious mistake of not insisting upon a full review of the corrosion control plan in light of the apparently more corrosive disinfectant.

Even when the lead Action Level was exceeded in Washington in 2001, EPA required no changes in corrosion control, went along with WASA's plan to replace only a small number of lead service lines, and did not insist that WASA conduct an effective public education program. There also are substantial unresolved questions about whether EPA allowed WASA to "invalidate" lead samples and avoid an exceedence of the Action Level, as alleged by a former WASA employee who was reportedly fired for informing EPA of the lead problem. Additionally, while EPA has issued a notice of violation recently to WASA for failing to comply with public notification and public education rules, EPA has never challenged the adequacy of WASA's water quality reports sent to all consumers in June 2003 boldly proclaiming that "YOUR DRINKING WATER IS SAFE," despite the exceedence of the lead Action Level.

Moreover, while EPA enforcement of the Safe Drinking Water Act (SDWA) has never been strong, this testimony documents that nationally, it has substantially dropped off since President Bush took office (see Figures at the end of this testimony). EPA's drinking water inspections, administrative penalty orders, administrative penalties, and other measures of enforcement activity generally have taken a substantial downturn in the past three years. We understand there is only one EPA staffer in EPA's Washington enforcement office dedicated to drinking water enforcement (though there are pieces of a few others who spend small amounts of time on drinking water enforcement), and that the dedicated drinking water enforcement staffing in the EPA's regions is small and dwindling. This enforcement downturn may have contributed to the lack of action in this case, compared to a far more vigorous EPA enforcement response to previous D.C. water crises in 1993-94 and 1995-96. There is a serious need for a major infusion of resources and a will to enforce in EPA's drinking water and enforcement programs.

The only solution to the D.C. water crisis is for EPA to initiate a full civil and criminal investigation, and to immediately issue emergency administrative orders to WASA and the Corps. The orders should mandate that they address the multitude of problems with their response to the lead crisis and other water quality problems, *including enforceable deadlines* for:

- (1) expedited, valid testing of all schools and day care centers;
- (2) expanded testing of multiple family and single family homes and apartments beyond those with lead service lines;
- (3) reissued accurate, understandable notices to consumers of lead levels, health risks, and options to avoid lead;
- (4) professional installation *and maintenance* of certified filters for homes with lead service lines or high lead levels in their water, and that have young children, pregnant women, women who expect they may become pregnant, and other high risk individuals;
- (5) an aggressive, honest, ongoing public education campaign developed with public input;
- (6) a comprehensive third-party review of all available records and archives to determine whether the D.C. materials survey correctly identifies all locations where lead components were used;
- (7) an expedited third-party review of the Corps' corrosion control and disinfection byproduct control strategy, with mandatory implementation of solutions by specified dates certain; and
- (8) a top-to-bottom third party expert review of WASA and the Corps' water quality, source water, and overall performance, including a detailed review of their implementation of past consultant recommendations, Comprehensive Performance Evaluations, and sanitary surveys, and recommendations for long-term compliance with current and upcoming rules and water quality objectives. The review should seek public input and should be published.

(See LEAD coalition recommendations below for a more detailed discussion of the terms of possible orders). Finally, EPA must overhaul its lead rule, and its overall and substantially better fund its drinking water and enforcement program's oversight, sampling, data collection, and legal enforcement to ensure that this or other similar problems are not repeated in other cities around the country.

The Army Corps of Engineers' Responsibilities

The Corps has repeatedly opted for the cheapest, easiest way out of water quality problems, even if the "solution" is manifestly inadequate. Thus, instead of following consultants' advice to consider aggressive and sophisticated corrosion inhibitors such as orthophosphates to reduce lead problems, the Corps chose merely to adjust pH. Instead of addressing the underlying problem creating the high chlorination byproduct contamination of city water by installing advanced treatment such as activated carbon and ozone or UV disinfection, or membranes, the Corps opted for a cheap "band-aid" solution of using chloramines alone, apparently exacerbating the corrosion problem with our water. As noted above, EPA should immediately issue an emergency order to the Corps requiring: (1) a comprehensive and public third party expert review of the Corps' corrosion control and water treatment problems; (2) enforceable deadlines for completion of the review and implementation of recommend solutions; and (3) a longer-term top-to-bottom third party review, with public input, of the Corps' water quality and treatment.

D.C. Water and Sewer Authority's (WASA) Responsibilities

WASA has bungled its response to the D.C. lead problem. In addition to violating EPA rules, WASA's public education and public notice efforts have been conflicting, confusing, misleading, and manifestly woefully inadequate. The direct notices provided to customers whose water was tested and confirmed to be highly contaminated was misleading and failed to provide any sense of health risk or urgency. The WASA water quality reports issued to the public proclaiming that "YOUR DRINKING WATER IS SAFE," despite evidence to the contrary, was highly misleading, as were a variety of other WASA public communications. WASA's changing advice on how long and whether to flush tap water, and whether filters are necessary, has confused the public.

WASA's program testing about 750 samples from over 150 city schools' fountains and faucets was fundamentally flawed and either completely inept or intentionally misleading. WASA admits that contrary to standard EPA regulatory protocol and standard scientific practice, they ran the water for 10 minutes before taking school samples, thereby likely substantially reducing lead levels in the samples. No child runs water for 10 minutes before drinking it. WASA's press conference portraying the results as demonstrating that there is no lead problem in D.C. schools was highly misleading and likely false. The Mayor and EPA have now told WASA to redo this testing. It should be done for all school and day care center faucets and fountains used by children for consumption.

In addition, there are serious unanswered questions about when WASA first learned of the lead problem, whether WASA "invalidated" lead samples to avoid exceeding the Action Level, and whether WASA fired an employee allegedly for notifying EPA of water quality problems (as has been found by a U.S. Department of Labor whistleblower review). It is also unclear whether the city's materials survey (intended to identify lead components in the system) adequately documents where lead service lines and high risk homes are located. The WASA lead sampling plan and monitoring program clearly are inadequate, since to date they have not sought to document the extent of the lead problem in homes not served by lead service lines.

WASA's lead service line replacement program is insufficiently aggressive and will not promptly resolve the city's lead problems. In addition to the slow pace of replacement (at WASA's current rate, it will take about 15 years to complete), it also is becoming apparent that *partial* lead service line replacement (leaving the lead line on the homeowner's property in place) may actually make lead problems worse. Partial service line replacement can exacerbate lead problems by shaking loose lead particles during and after the replacement process, and by creating galvanic corrosion (similar to a battery) caused when two pipes made of different metal are connected. We believe that WASA should pay for—with federal assistance—full lead service line replacements.

A long history of problems with the operation and maintenance of the D.C. water distribution system, including past city-wide boil water alerts during the microbial crises in 1993-94 and 1995-96, and WASA's inability or unwillingness to candidly inform customers and apparently even senior city officials about water quality problems makes clear the need for EPA to issue an emergency order mandating a comprehensive top-to-bottom third party expert review of WASA's water quality and operations, with public input and public release of the findings, and a schedule for implementation of the recommendations.

History of Recent Lead Crisis in D.C.

On Saturday January 31, 2004, residents of the Nation's Capitol picked up their morning papers and were stunned to learn that thousands of homes' drinking water in the District was seriously contaminated with lead. Officials at the D.C. Water and Sewer Authority (WASA) and at the U.S. Environmental Protection Agency (EPA) had known about the lead problem for over a year, and probably longer, but had failed to effectively notify the public about the problem. The Mayor, City Council, Members of Congress, and the general public were caught by surprise that over 4,000 of 6,000 homes whose water WASA tested was contaminated with lead at levels above EPA's action level—the safety level at which federal rules require prompt action to reduce lead levels. There has been over a month of front-page stories, saturation TV and radio coverage, hostile City Council hearings, public outrage, and repeated (albeit often conflicting) WASA public statements that there was no serious health threat. Finally, WASA recommended on February 25 that pregnant women and children under age six whose homes were served by lead service lines should not drink city water, fueling further public concern, confusion, and outrage that WASA and EPA had known about the health threat for so long and never previously told pregnant women and parents of young children not to drink the water.

WASA also held a press conference in late February to announce that school drinking water was safe, based upon testing of over 750 fountains and faucets in D.C. schools. It then came out that the results were seriously misleading because in almost all cases, WASA flushed the water lines for 10 minutes, likely removing most lead from the water, contrary to EPA rules and all scientific protocols for lead testing. No child stands at a fountain flushing water for 10 minutes before taking a drink. WASA refused to retest D.C. school drinking water, or to comprehensively test day care centers, posing a serious health risk to D.C. school and preschool children, until ordered to do so by the Mayor and EPA.

Now we are learning that it appears that similar problems may be plaguing Northern Virginia communities that also receive their water from the U.S. Army Corps of Engineers' Washington Aqueduct Division (the Corps). The Corps changed its disinfection practice to use chloramines in 2000, a switch many experts believe may account for increased corrosivity of the water and therefore more lead leaching into tap water. Chloramines are a "band-aid" that modestly reduce cancer-causing chlorination byproducts, but only a switch to modern water treatment technologies such as granular activated carbon plus UV light or ozone disinfection will actually solve both the chlorination byproduct problem.

The February 25 "don't drink the water" advice, though necessary, is woefully inadequate. Citizens are infuriated that they have been misled and given conflicting advice. District leaders announced, as this scandal erupted in early February, that they would name an "independent" blue ribbon panel to investigate. However, this was followed days later by an announcement of a panel consisting entirely of WASA and other District government officials, with no independent experts and no citizens, environmentalists, or consumer representatives. The District government's retreat from its promise that there would be an independent review showed a lack of commitment to swiftly resolve this serious health problem or to get to the bottom of why WASA continues to fail in its duty to protect the public.

The decisions to approve the use of lead service lines were made with the explicit approval and oversight of federal officials, who were overseeing the construction of the city's water lines and

supply. There had been a vigorous public debate about the safety of lead service lines stretching back to the 1890s, yet federal officials who ran the city supply decided to use lead lines. Thus, the federal government bears some culpability for the problem.

Conclusion

We urge members of this Committee to consider the legislative and oversight recommendations noted above. Without changes in applicable statutory provisions, and aggressive Congressional oversight, it is likely that problems like those in Washington, D.C. could happen in many cities and towns across the country. Public health protection requires increased vigilance by EPA, Congress, health authorities, and water utility professionals, and increased public awareness.

APPENDIX A

LEAD Coalition's Recommendations

Lead Emergency Action for the District (LEAD), a coalition of local and national health, environmental, and other citizen organizations of which NRDC is a member, recommended the following actions in February; only part of a few of these recommendations have been carried out:

1. The U.S. Environmental Protection Agency (EPA) has the responsibility to immediately take enforcement action against WASA to ensure our health is protected, and should initiate a full criminal and civil enforcement investigation.

The EPA has primary responsibility for overseeing the safety of the District's drinking water supply. Unlike its vigorous actions to resolve microbiological threats a decade ago, the agency has shirked its responsibility in response to the recent lead problem. The EPA should immediately initiate an enforcement action under its emergency order authority (which allows the EPA to enforce when there is an imminent health threat, requiring no finding of a violation of law), and should initiate a parallel criminal and civil enforcement investigation. The EPA order should mandate several specific actions, *including enforceable deadlines* for:

- 1) **Expedited, valid testing of all schools and day care centers**, both first draw and flush samples.
- 2) **Expanded testing of homes beyond those with lead service lines**. WASA should arrange free water lead tests for all D.C. residents. (This is what the New York City Department of Environmental Protection has been doing for more than 10 years.) Notice of these free lead tests should be drafted in consultation with EPA and the public, and should note the health implications of elevated lead levels in water and the threat from lead paint in D.C.
- 3) **Reissued accurate, understandable notices to consumers** of lead levels, health risks, and options to avoid lead, by mail and through broadcast media. WASA should be required to immediately notify all D.C. households whether they are believed to have lead service lines or not, what the risks are, and should arrange for free lead testing of any tap water on request. Notices similar to those recently sent to lead service line customers should be sent to customers who are not believed to have lead service lines noting that there still may be a risk of lead contamination, and offering to arrange for free lead testing.
- 4) **Professional installation and maintenance of certified filters** for homes with lead service lines or high lead levels in their water, and that have young children, pregnant women, women who expect they may become pregnant, and other high risk individuals.
- 5) **An aggressive, honest, ongoing public education campaign** developed with public input. This should include several specific requirements, such as:
 - a. WASA should send all D.C. residents a *detailed* city-wide map of all areas with known or suspected lead service lines with accompanying health and other explanations.
 - b. WASA must acknowledge the public's right to know and issue a city-wide map of lead levels detected on a detailed map, and should provide *real time* monitoring results for lead and all contaminants found in its water.
 - c. WASA must notify any home with a lead service line that has been found to have excessive lead in an appropriate water test that it is eligible for free lead service line replacement, and the schedule for replacement. The notice should also note whether

WASA is responsible for only part of the service line replacement or full service line replacement under D.C. law.

- d. EPA and WASA must issue notices that publicly recommend that those pregnant women, or parents of young children, with lead service lines or whose water lead levels are in excess of EPA's Action Level (or some other reasonable safety level), should obtain blood screening for lead for their children. This is not an emergency that would require going to the emergency room, but it is a matter of importance, and blood tests for lead levels should be provided by the D.C. Department of Health.

- 6) **A comprehensive third-party review of all available records and archives to determine whether the D.C. materials survey** correctly identifies all locations where lead components were used;
- 7) **An expedited third-party review of the Corps' corrosion control and disinfection byproduct control strategy**, with mandatory implementation of solutions by specified dates certain; and
- 8) **A top-to-bottom third party expert review of WASA and the Corps' water quality, source water, and overall performance**, including a detailed review of their implementation of past consultant recommendations, Comprehensive Performance Evaluations, and sanitary surveys, and recommendations for long-term compliance with current and upcoming rules and water quality objectives. The review should seek public input and should be published.

2. EPA should immediately take enforcement action against the Army Corps of Engineers' Washington Aqueduct and order it to aggressively treat the water to reduce lead leaching.

The EPA's 1991 lead and copper regulations require the Washington Aqueduct to treat our water in order to reduce its corrosivity; less corrosive water should mean less lead leaching from pipes. While the Corps and WASA do have a corrosion control program (albeit one that reportedly was reviewed by the EPA far later than envisioned by the 1991 rules), it is obvious that it must be critically examined and improved. Recent changes in water treatment at the Washington Aqueduct (apparently made after the corrosion control plan went into effect), aimed at reducing disinfection byproducts, may have altered the chemistry of the city's water. An urgent independent review of the corrosion control plan is warranted, with EPA-ordered steps to implement recommended actions. Deadlines should be established for completion of the review and implementation of its recommendations, and the results should be made public as soon as they are completed. When WASA was constituted, it entered into a governance agreement with the city of Falls Church and Arlington County over Washington Aqueduct, with oversight over expenses and actions. WASA and other customers should long ago have insisted upon improvements in the Washington Aqueduct's corrosion control program.

3. WASA must re-conduct its testing of District school water to be sure that *all drinking water fountains and all faucets used for consumption in District schools and day care centers are tested—both first draw and flushed samples—within two weeks.*

WASA's recent water test results were highly misleading because more than 97 percent of the samples taken were from faucets and fountains flushed for 10 minutes. Since no student flushes a fountain for 10 minutes before taking a drink, flushing water for a test sample would create misleading samples and test results. (Flushing often will reduce or eliminate lead levels in large buildings.) Since infants and

young children are most vulnerable to lead poisoning, schools and day care centers should be top priorities for testing.

4. EPA and Congress should help WASA and the D.C. government fund home treatment units or bottled water for pregnant women and infants under age 6 in households that have lead service lines *or* lead in the drinking water at levels above the EPA action level.

There are likely thousands of pregnant women and young children under the age of 6 who are drinking tap water that contains lead at levels higher than 15 parts per billion, EPA's action level. These people need a safe alternative water supply until the problem has been resolved. The D.C. government, EPA and Congress should fund alternative water supplies for high-risk water drinkers. Bottled water is not necessarily any safer than tap water unless it is independently tested and confirmed to be pure, and many filters are not independently certified to remove the levels of lead found in many D.C. homes' water. Therefore, EPA should assist residents by assuring that any alternative water supply (such as bottled water) is indeed free of lead and other harmful contaminants, or that a filter is independently certified (see www.nsf.org) to take care of lead. It should be noted that NSF certifies only that lead levels up to 150 ppb will be reduced to below 10 ppb; there is no guarantee for reducing levels above 150 ppb. Finally, it is critical that WASA and other officials involved ensure that there is a follow-up program for maintenance of filters, since poorly maintained filters can fail to remove lead or even make contamination worse.

5. WASA should expedite replacement of lead service lines, and the City Council should review policies on replacement of the homeowner's portion of the line.

Under EPA's lead and copper rule, WASA reportedly has begun to implement its obligation to replace 7 percent of the District's lead service lines (or to test and clear homes served by lead service lines as containing less than 15 ppb lead in their water) each year. At this pace it will take nearly 15 years—until about 2018—for WASA to replace all the city's lead service lines. In the meantime, thousands of pregnant women, infants and children could be consuming water with excessive lead levels. We strongly urge that the lead service line replacement program be aggressively expedited. A schedule should be published, with objective criteria for which lines will be replaced first (presumably based primarily upon replacement of those lines posing the greatest public health risk first). Federal and city general funds should be set aside for this program to augment promised rate increases on our water bills. WASA customers should not foot the entire bill, since the decisions to approve the use of lead service lines were made with the explicit approval and oversight of federal officials who were overseeing the construction of the city's water lines and supply. There was a vigorous public debate about the safety of lead service lines stretching back to the 1890s, yet federal officials who ran the city supply decided to use lead lines. District officials also should consider using the city's multimillion dollar rainy-day fund to help pay for service line replacements.

In addition, the City Council should review WASA's and the city's policy about lead service line replacement for the portions of the line that are supposedly owned by homeowners. Evidence is mounting that partial lead service line replacement often will not solve the problem, and actually can make lead levels worse by shaking loose lead in the pipes and causing galvanic corrosion that may exacerbate lead problems.

Under recent EPA rule changes, it is apparently up to the City Council to determine how much of the service line should be replaced by WASA. In 1991, EPA originally required full lead service line

replacement unless the water utility could prove that it did not control part of the line, in which case it was to replace only that portion that the utility controlled. After being sued successfully by a water industry group, the EPA changed the rules to provide that it is largely a question of local law what portion of the lead service line is the responsibility of the water utility. We believe that it is only fair that since many of the lead service lines were installed from the 1890s through the 1940s under the direction, approval and control of the District and federal officials, those authorities should be responsible for replacing them, not homeowners. The cost to homeowners of their portion of lead service line replacement could be thousands of dollars, but it is far more efficient and cost-effective to replace the entire service line at once, rather than digging up yards twice. This is a question that deserves a full public airing by the City Council.

6. The City Council should create a permanent citizen water board for water to oversee WASA and the Washington Aqueduct, to address longstanding problems with D.C.'s water supply.

In 1996, the Natural Resources Defense Council (NRDC), Clean Water Action (CWA), and the DC Area Water Consumers Organized for Protection (DC Water COPs) issued a report, based in large part on city and federal records obtained under the Freedom of Information Act. That report found serious ongoing problems with the District's water, and identified likely problems that could occur in the future. Among the current and future problems noted were lead contamination, bacteria and parasites, cloudiness (turbidity) in the water – which may indicate poor filtration and can interfere with disinfection – and disinfection byproducts that cause cancer and may cause birth defects and miscarriages. The report also noted that the Washington Aqueduct's water treatment plants need a major infusion of funds to modernize and upgrade treatment, and that the District has ancient and deteriorating water pipes leading to water main breaks, regrowth of bacteria, and lead problems. Those pipes must be replaced. In addition, the WASA-operated sewage collection and treatment systems have serious inadequacies, including major problems whenever stormwater runoff overloads the treatment plant's capacity, causing raw sewage to flow into the Anacostia and Potomac rivers.

In the wake of the D.C. citywide boil-water alerts in 1993 and 1996 due to turbidity and bacteria problems, and EPA's enforcement orders issued thereafter, comprehensive sanitary surveys and engineering reviews by outside contractors found a series of serious problems with our water treatment and distribution system. These reviews recommended hundreds of millions of dollars in improvements in the city's water supply system.

While the city has addressed some of the most pressing problems, it has not made many of the important investments needed to repair local water infrastructure. We strongly recommend that the City Council establish a citizen water board to oversee the city's water supply and sewer system. The board should oversee not only steps to improve our drinking water system, but also WASA's storm water and sewer obligations, because of the overall competition for water infrastructure dollars and need to focus on whole watershed and "sewer shed" solutions. This board—like those created by some states to oversee electric and other utilities—should be funded with a small surcharge on water and sewer bills, and should be wholly independent of WASA and the Washington Aqueduct. It should include independent engineering and public health experts and citizen activists interested in drinking water, and should issue an annual progress report on WASA's and the Washington Aqueduct's performance, progress and problems.

7. The City Council must improve its oversight of WASA.

The District's City Council is responsible for overseeing WASA's day-to-day activities, and has failed to do its job over recent years to make sure that WASA is carrying out its responsibilities to deliver safe drinking water and to safely collect and fully treat city sewage. More aggressive City Council oversight is needed to avoid continued problems with WASA.

8. The mayor should make tap water and all environmental protection a high priority.

The mayor should make drinking water safety, sewage collection and treatment and environmental protection a high priority. The mayor bears some responsibility for ensuring that WASA is doing its job. He has many ways to influence WASA's board and daily operations, and should insist on regular briefings and updates on how the city is fulfilling its obligations to provide these most basic city services.

9. Consumers, health, and citizens groups should be on the blue ribbon commission, and should recommend people to serve on the panel.

The announced "independent" panel to review WASA's embarrassing performance in addressing the lead problem has instead morphed into an internal review panel of city officials, including two of the WASA officials who so obviously have failed to do their jobs. In order to avoid a panel that merely papers over the problems and whitewashes the lead crisis, LEAD is calling upon city officials to name independent experts, consumers, citizen groups and environmentalists to the panel.

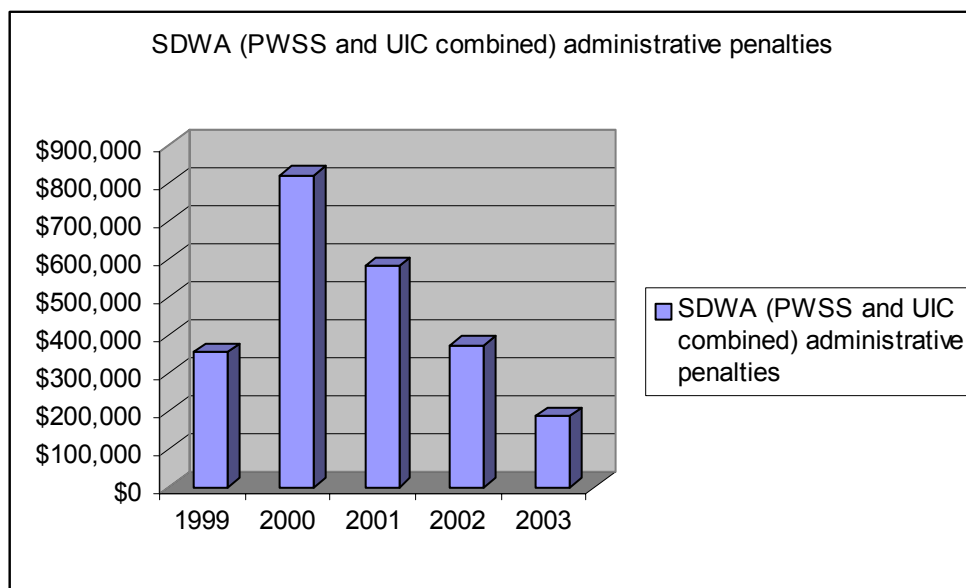
10. The EPA, CDC, the D.C. Dept of Health and the City Council should establish a joint task force with citizen participation, to evaluate the extent of lead poisoning from all sources in the District, and its environmental justice implications, particularly for low-income African-American and Latino households.

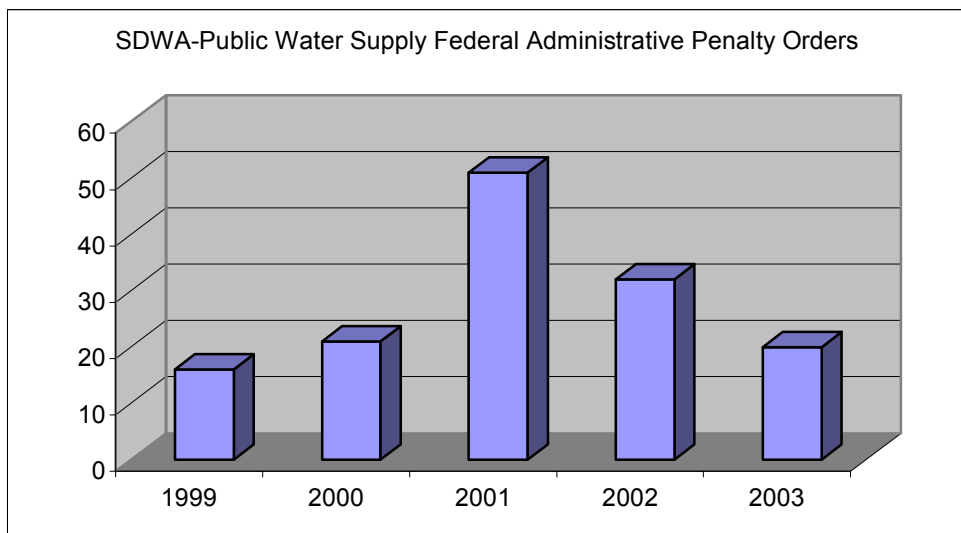
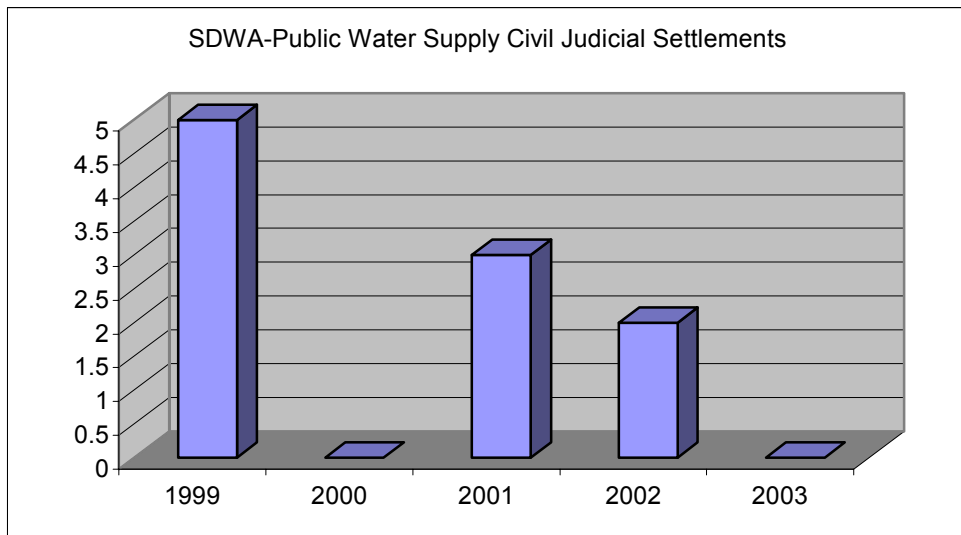
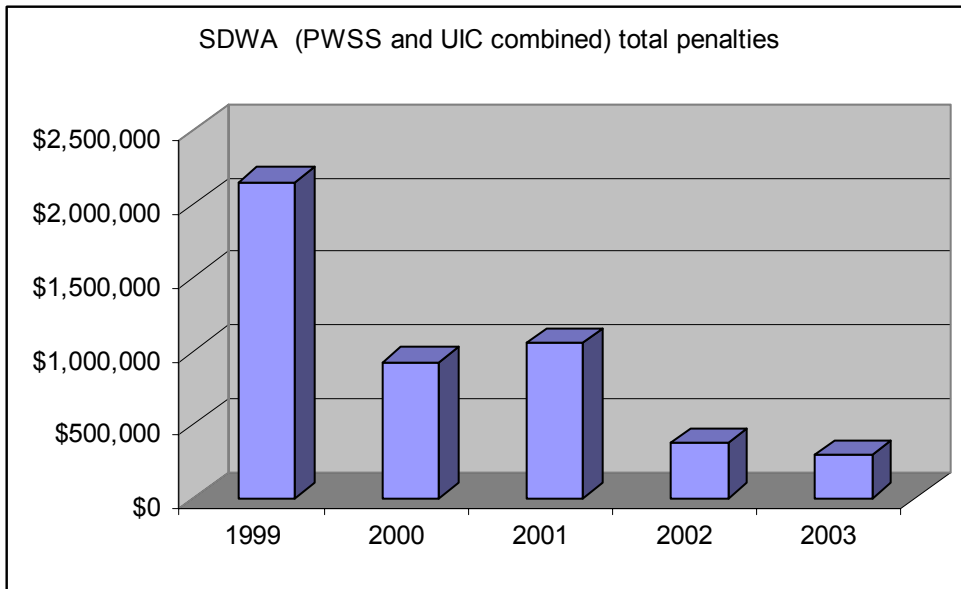
According to expert estimates, the District has widespread lead poisoning, affecting perhaps tens of thousands of District children. Because of the city's demographic and economic realities, most of these children are African American and Latino. The District and federal officials should establish a joint task force, with citizens and medical experts, to evaluate the extent of the problem and its environmental justice implications, and to recommend actions to remedy it.

APPENDIX B

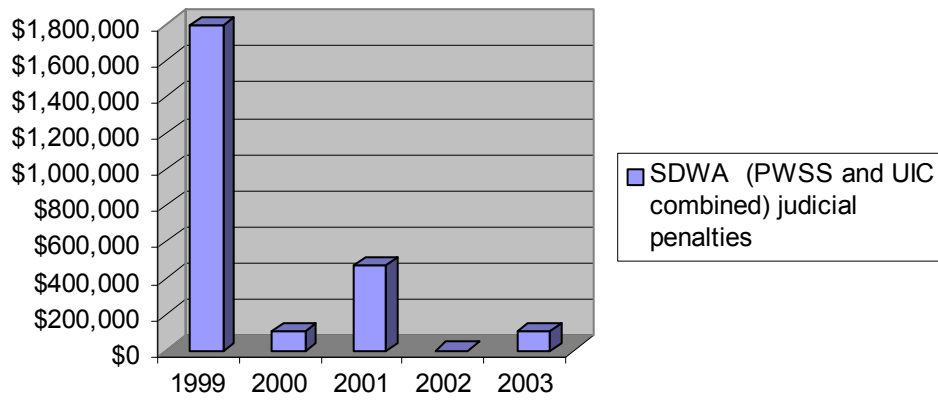
RECENT TRENDS IN EPA DRINKING WATER ENFORCEMENT

Source: EPA Data, 2004²





SDWA (PWSS and UIC combined) judicial penalties



SDWA (PWSS and UIC combined) value of injunctive relief

